

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 30816-0093	FOR FURTHER ACTION	See Form PCT/IPEA/416																
International application No PCI/US04/32071	International filing date (day/month/year) 30 September 2004 (30.09.2004)	Priority date (day/month/year) 02 October 2003 (02.10.2003)																
International Patent Classification (IPC) or national classification and IPC IPC(7): F24H 1/00; F23Q 3/00; F23D 14/12 and US Cl.: 432/219, 222, 223, 431/261, 328																		
Applicant MR. HEATER, INC.																		
<p>1 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36</p> <p>2 This REPORT consists of a total of <u>4</u> sheets, including this cover sheet</p> <p>3 This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70 16 and Section 607 of the Administrative Instructions)</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No I and the Supplemental Box</p> <p style="margin-left: 20px;">b <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions)</p> <p>4 This report contains indications relating to the following items:</p> <table style="width: 100%; margin-left: 20px;"> <tr> <td><input checked="" type="checkbox"/> Box No I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No VIII</td> <td>Certain observations on the international application</td> </tr> </table>			<input checked="" type="checkbox"/> Box No I	Basis of the report	<input type="checkbox"/> Box No II	Priority	<input type="checkbox"/> Box No III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No VI	Certain documents cited	<input type="checkbox"/> Box No VII	Certain defects in the international application	<input type="checkbox"/> Box No VIII	Certain observations on the international application
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Date of submission of the demand 19 April 2005 (19.04.2005)	Date of completion of this report 02 November 2005 (02.11.2005)																	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer <i>Sharon D. Greene for</i> Gregory A. Wilson Telephone No (571) 272-3700																	

Form PCT/IPEA/409 (cover sheet)(April 2005)

Box No. I Basis of the report

1 With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2 With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☒ the description:
pages 1-14 _____ as originally filed/furnished
pages* NONE _____ received by this Authority on _____
pages* NONE _____ received by this Authority on _____
- ☒ the claims:
pages 15-23 _____ as originally filed/furnished
pages* NONE _____ as amended (together with any statement) under Article 19
pages* NONE _____ received by this Authority on _____
pages* NONE _____ received by this Authority on _____
- ☒ the drawings:
pages 1-26 _____ as originally filed/furnished
pages* NONE _____ received by this Authority on _____
pages* NONE _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3 ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages none _____
- ☒ the claims Nos. none _____
- ☒ the drawings, sheets/figs none _____
- ☒ the sequence listing (*specify*): none _____
- ☒ any table(s) related to the sequence listing (*specify*): none _____

4 ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed as indicated in the Supplemental Box (Rule 70.2(c))

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No
PCT/US04/32071**Box No V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1 Statement**

Novelty (N)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Inventive Step (IS)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Industrial Applicability (IA)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-12, 17, 18, 24, 25, 27-34, 38-41, 47, 48, 50-56, 58-63, 68, 69, 75, 76, and 78-82 lack an inventive step under PCI Article 33(3) as being obvious over Cherryholmes (4,782,814) in view of Japan reference (JP354116747A). Cherryholmes discloses a portable infrared heater (20) and includes a housing (21, 27, 66, 67) having a handle (28) for transporting the heater and legs (26) to elevate the housing, an air inlet (36), a burner assembly (23) mounted in the housing including a gas fuel valve (regulator 29) adapted to communicate with a fuel source (propane tank 24) which is enclosed in the housing and the air inlet and capable of regulating the pressure of the fuel, a radiant surface (22) having a rear face and communicates with a venturi (25) where the air/fuel is mixed, an orifice (31) being located to direct fuel to the venturi, alternatively, Figure 3 shows the radiant surface recessed in the housing and disposed at an angle. Cherryholmes furthermore discloses an igniter (ie: piezo) secured to the housing (SEE column 3, lines 13-15), an access means to the fuel source by way of lid/door which handle (28) is attached. Cherryholmes does not particularly disclose an oxygen depletion monitoring means associated with the burner assembly. (JP354116747A) teaches an oxygen depletion monitoring device which detects when oxygen is deficient and drops the output through a thermocouple which closes the valve to the burner shutting off the burner. Since it is known in the art to provide an oxygen depletion monitoring device as a safety feature to burner structures, it would have been obvious to one of ordinary skill in the art to provide such device as taught by (JP354116747A) in the portable infrared heater of Cherryholmes as a safety feature for the heater. Cherryholmes in view of (JP354116747A) furthermore does not particularly disclose the size variations and positions of the fuel tank, in which case a person having ordinary skill in the art would have found it obvious to size the tanks and include multiple propane tanks attached at various locations since such a modification would have involved a mere change in size and mounting locations which is generally recognized as being within the level of ordinary skill.

Claims 13-16, 19-23, 26, 35-37, 42-46, 49, 57, 64-67, 70-74, 77, 83-94 meet the criteria set out in PCI Article 33(2)-(3) because the prior art does not teach or fairly suggest the combination of a portable gas-fired infrared heater including an oxygen depletion monitoring means associated with the burner assembly and including a thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.

Claims 1-94 meet the criteria set out in PCI Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No
PCT/US04/32071

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V 1 Reasoned Statements:

The opinion as to Novelty was positive (Yes) with respect to claims 1-94

The opinion as to Novelty was negative (No) with respect to claims NONE

The opinion as to Inventive Step was positive (Yes) with respect to claims 13-16 19-23, 26, 35-37, 42-46, 49 57, 64-67, 70-74 77 and 83-94

The opinion as to Inventive Step was negative (NO) with respect to claims 1-12, 17, 18, 24, 25, 27-34 38-41, 47, 48 50-56, 58-63, 68, 69, 75, 76, 78-82

The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-94

The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE